

In the Claims

Listing of the Claims

This listing of claims will replace all prior versions, and listings, of the claims in the application.

1. (Currently Amended) Method for producing an anisotropic magnetic powder, in which

- with a starting material based on an SE-TM-B alloy, where SE is a rare earth element including yttrium and TM is a transition metal,
- a mixture having a TM_xB phase, in particular Fe_2B phase is produced by a first hydrogenation process (S4) with heating under a hydrogen pressure to produce a hybrid and by a second hydrogenation process (S5) to produce a phase transition which takes place under a hydrogen pressure and an elevated temperature that induces a phase transition,

- a dehydrogenation process with a reverse phase transition (HDDR method) (S6) is performed,

characterized in that where in

- a magnetic material with an anisotropic orientation is used as the starting material.

2. (Currently Amended) Method for producing an anisotropic magnetic powder, in which

- with a starting material based on an SE-TM-B alloy, where SE is a rare earth element including yttrium and TM is a transition metal,

- a mixture having a TM_xB phase, in particular an Fe_2B phase is produced by a first hydrogenation process (S4) with heating under a hydrogenation pressure to create a hybrid and by a second hydrogenation process (S5) to induce a phase transition which takes place under a hydrogenation pressure and at an elevated temperature which induces a phase transition and

- a dehydrogenation process with a reverse phase transition (HDDR method) (S6) is performed,
- whereby the starting as a magnetic material consists at least partially of magnetic scrap metal.

3. (Currently Amended) Method according to Claim 1-~~or 2~~, in which a permanent magnetic material with a hard magnetic phase $SE_2TM_{14}B$ is used as the magnetic material, where SE is a rare earth element including Y and TM is a transition metal.

4. (Currently Amended) Method according to Claim 1,~~2- or 3~~, in which at least one of the elements Fe, Ni or Co is provided as the transition metal.

5. (Currently Amended) Method according to ~~a preceding claim 1~~, in which additives including amounts of C, O, N and/or S are present.

6. (Currently Amended) Method according to ~~a preceding claim 1~~, in which a magnetic material with an average grain size of less than 1 mm, a hard magnetic content greater than 90% by volume and/or foreign phases smaller than 0.5 mm in size is used as the starting material.

7. (Currently Amended) Method according to ~~a preceding claim 1~~, in which a magnetic material with an average grain size smaller than 0.1 mm is used as the starting material.

8. (Currently Amended) Method according to ~~a preceding claim 1~~, in which the starting material is ground and screened or fractionated before the hydrogenation/dehydrogenation treatment (S3).

9. (Currently Amended) Method according to ~~a preceding claim 1~~, in which a magnetic powder with a crystal size amounting to at most 75% of the particle size (S3) is selected as the starting material.

10. (Currently Amended) Method according to ~~a preceding claim 1~~, in which the starting material is cleaned, especially removing foreign phase fractions (S3).

11. (Currently Amended) Method according to ~~a preceding claim 1~~, in which the starting material is cleaned by annealing *in vacuo*, in a noble gas or in hydrogen before the hydrogenation/dehydrogenation treatment (S3).

12. (Currently Amended) Method according to ~~a preceding claim 1~~, in which a heat treatment is performed in particular at a temperature up to 600°C under a noble gas or a vacuum atmosphere after the hydrogenation/dehydrogenation treatment.

13. (Currently Amended) Method according to ~~a preceding claim 1~~, in which the magnetic powder that is produced is homogenized by blending the powders (S8).

14. (Currently Amended) Method according to ~~a preceding claim 1~~, in which the magnetic powder produced is freed of a coarse fraction greater than 0.5 mm in size by screening.

15. (Currently Amended) Method according to ~~a preceding claim 1~~, in which the magnetic powder is supplied with a particle fraction of max. 10% particles <32 µm in size.

16. (Currently Amended) Method according to ~~a preceding claim 1~~, in which the magnetic powder is coated (S9).

17. (Currently Amended) Method according to ~~a preceding claim 1~~,
wherein B is partially replaced by C.

18. (Currently Amended) Plastic or metal bonded magnet manufactured
using a metal powder produced by a method according to ~~a preceding claim 1~~.

19. (Original) Magnet according to Claim 18, with an energy
product BH_{max} greater than 80 kJ/m³.

20. (Currently Amended) Magnet according to Claim 18-~~or 19~~, with a
degree of orientation equal to or greater than 70%.

21. (Currently Amended) Magnet according to Claim 18,~~19-20~~, with
a degree of filling of magnetic fractions of at least 63 vol%.